

deposited coating comprising the addition of a noble metal to increase thermal conductivity of the coating.

19. The composite according to claim 18, wherein the coating is a superconductive precursor and least 10% of the coating is in a superconductive phase as deposited.
20. The composite according to claim 18, wherein the noble metal is silver.
21. The composite according to claim 20, wherein up to 30% silver is included in the metal oxides.
22. The composite according to claim 18, wherein the composite is a target for a sputtering magnetron.
23. The composite according to claim 22, wherein the target is cylindrical.
24. The composite according to claim 18, wherein the coating has a thermal conductivity of between 1 and 5  $\text{Wm}^{-1}\text{K}^{-1}$ .
25. The composite according to claim 18, wherein the thermal conductivity of the composite or the target through the substrate and the coating is in the range 25 to 125  $\text{Wm}^{-1}\text{K}^{-1}$ .
26. The composite according to claim 18, wherein the coating has an electrical resistivity of lower than  $15 \times 10^{-6} \text{ Ohm.m}$ , more preferably lower than  $10 \times 10^{-6}$  and most preferably less than  $5 \times 10^{-6} \text{ Ohm.m}$ .
27. A composite comprising: a substrate and a coating deposited on said substrate, the coating being deposited by flame or plasma spraying at atmospheric pressure, the thickness of the coating being at least 5 mm, more preferably greater than 8 mm, the coating comprising a superconductor precursor and at least 10% of the coating is in a superconductive phase as deposited.
28. The composite according to claim 27, wherein the composite is a target for a sputtering magnetron.

29. The composite according to claim 28, wherein the target is cylindrical.
30. The composite according to claim 27, wherein the coating has a thermal conductivity of between 1 and 5  $\text{Wm}^{-1}\text{K}^{-1}$ .
31. The composite according to claim 27, wherein the thermal conductivity of the composite or the target through the substrate and the coating is in the range 25 to 125  $\text{Wm}^{-1}\text{K}^{-1}$ .
32. The composite according to claim 27, wherein the coating has an electrical resistivity of lower than  $15 \times 10^{-6} \text{ Ohm.m}$ .
33. A method of depositing by flame or plasma spraying at atmospheric pressure a layer onto a substrate, the layer having a thickness of at least 5 mm, more preferably greater than 8mm, the coating comprising metal oxides, the method including the step of depositing an additional noble metal with the coating to increase thermal conductivity of the coating.
34. The method according to claim 33, wherein the noble metal is silver.
35. The method according to claim 34, wherein up to 30% silver is included in the material to be sprayed.
36. The method according to claim 33, wherein the spraying step includes spraying a material through a spraying head, the material being in the form of one of a powder, a slurry and a solution.
37. The method according to claim 33, further including the step of cooling the substrate.
38. The method according to claim 37, wherein the cooling is with a cryogenic liquid.
39. A method of depositing by flame or plasma spraying at atmospheric pressure a layer onto a substrate, the layer having a thickness of at least 5 mm, more preferably greater than 8mm, the coating comprising a superconductive precursor and at least 10% of the layer being in a superconductive phase as deposited.

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